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**CARDIAC STIMULATION DEVICE INCLUDING  
SLEEP APNEA PREVENTION AND TREATMENT**

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**ABSTRACT**

10 An implantable cardiac stimulation device comprises a physiologic  
sensor and one or more pulse generators. The physiologic sensor is  
capable of sensing a physiologic parameter. The pulse generators can  
generate cardiac pacing pulses with a timing based on the physiologic  
parameter. The timed cardiac pacing pulses can prevent a sleep apnea  
condition. In one example, a cardiac stimulation device has a physiologic  
sensor and can be configured to pace a patient's heart according to a rest  
15 mode of operation. The cardiac stimulation device uses measurements  
from the physiologic sensor to prevent and treat sleep apnea using a  
revised rest mode of operation. The revised rest mode operates under a  
presumption that sleep apnea is primary to a reduced heart rate, rather  
than secondary, so that pacing at a rate higher than the natural cardiac  
20 rate during sleep will prevent sleep apnea.